

What is claimed is:

1. A printing apparatus comprising:
 - a plurality of print heads;
 - 5 a moving member that can be moved and that is provided with said plurality of print heads; and
 - a feed mechanism for feeding a medium to be printed;
 - wherein dots for correcting a feed amount by which said feed mechanism feeds said medium to be printed are formed on said medium
 - 10 to be printed by ejecting ink from a predetermined print head, among said plurality of print heads, while moving said moving member, and
 - wherein said predetermined print head is a print head other than the print head, among said plurality of print heads, that
 - 15 is the most susceptible to vibration caused by moving said moving member.
2. A printing apparatus according to claim 1,
 - wherein said predetermined print head is the print head,
 - 20 among said plurality of print heads, that is the least susceptible to the vibration caused by moving said moving member.
3. A printing apparatus according to claim 1, further comprising:
 - 25 a drive member that is connected to said moving member and that is for driving said moving member;
 - wherein said predetermined print head is the print head that is located the closest to a connecting section at which said moving member and said drive member are connected to each other.

4. A printing apparatus according to claim 3,
wherein the dots for correcting the feed amount by which
said feed mechanism feeds said medium to be printed are formed
on both edge sections of said medium to be printed by ejecting
5 ink from said predetermined print head, among said plurality of
print heads, while moving said moving member.

5. A printing apparatus according to claim 1,
wherein the dots for correcting the feed amount by which
10 said feed mechanism feeds said medium to be printed are formed
on said medium to be printed by ejecting ink from predetermined
nozzles provided in said predetermined print head.

6. A printing apparatus according to claim 1, further
15 comprising:
a support member for supporting said medium to be printed;
a suction member for sucking said medium to be printed toward
said support member; and
a first detector for detecting a force by which said suction
20 member sucks said medium to be printed;
wherein whether or not to form, on said medium to be printed,
the dots for correcting the feed amount by which said feed
mechanism feeds said medium to be printed is determined according
an output value of said first detector.

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7. A printing apparatus according to claim 1,
wherein whether or not to form, on said medium to be printed,
the dots for correcting the feed amount by which said feed
mechanism feeds said medium to be printed is determined according
30 at least one of

a value of a temperature around said printing apparatus and

a value of a humidity around said printing apparatus.

5 8. A printing apparatus according to claim 1,
wherein the dots for correcting the feed amount by which
said feed mechanism feeds said medium to be printed are formed
on said medium to be printed when power is supplied to said printing
apparatus.

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9. A printing apparatus according to claim 1,
wherein the dots for correcting the feed amount by which
said feed mechanism feeds said medium to be printed are formed
on said medium to be printed during a printing operation of said
15 printing apparatus.

10. A printing apparatus according to claim 1,
wherein the dots for correcting the feed amount by which
said feed mechanism feeds said medium to be printed are formed
20 on said medium to be printed when said medium to be printed has
been exchanged.

11. A printing apparatus according to claim 10, further
comprising:

25 a second detector for detecting whether or not said medium
to be printed has been exchanged;
wherein when it has been detected by said second detector
that said medium to be printed has been exchanged, the dots for
correcting the feed amount by which said feed mechanism feeds said
30 medium to be printed are formed on said medium to be printed.

12. A printing apparatus according to claim 1,
wherein the dots for correcting the feed amount by which
said feed mechanism feeds said medium to be printed are formed
5 on said medium to be printed when a print mode of said printing
apparatus has been changed.

13. A printing apparatus according to claim 1,
wherein at least two correction amounts for correcting the
10 feed amount by which said feed mechanism feeds said medium to be
printed are obtained based on said dots formed on said medium to
be printed, and
wherein, based on an average value of said correction
amounts that are obtained, the feed amount by which said feed
15 mechanism feeds said medium to be printed is corrected.

14. A printing apparatus comprising:
a plurality of print heads;
a moving member that can be moved and that is provided with
20 said plurality of print heads; and
a feed mechanism for feeding a medium to be printed;
wherein dots for correcting a feed amount by which said feed
mechanism feeds said medium to be printed are formed on both edge
sections of said medium to be printed by ejecting ink from a
25 predetermined print head, among said plurality of print heads,
while moving said moving member;
wherein said predetermined print head is the print head,
among said plurality of print heads, that is the least susceptible
to vibration caused by moving said moving member;
30 wherein said printing apparatus further comprises a drive

member that is connected to said moving member and that is for driving said moving member;

wherein said predetermined print head is the print head that is located the closest to a connecting section at which said moving 5 member and said drive member are connected to each other;

wherein said printing apparatus further comprises:

a support member for supporting said medium to be printed;

10 a suction member for sucking said medium to be printed toward said support member; and

a detector for detecting a force by which said suction member sucks said medium to be printed;

wherein whether or not to form, on said medium to be printed, the dots for correcting the feed amount by which said feed 15 mechanism feeds said medium to be printed is determined according an output value of said detector; and

wherein whether or not to form, on said medium to be printed, the dots for correcting the feed amount by which said feed mechanism feeds said medium to be printed is determined according 20 at least one of

a value of a temperature around said printing apparatus and

a value of a humidity around said printing apparatus.

25 15. A liquid ejecting apparatus comprising:

a moving member that has at least two liquid ejecting section groups and that is capable of moving in a predetermined direction due to an external force, each of said liquid ejecting section groups including at least two liquid ejecting sections for 30 ejecting liquid droplets to form liquid droplet marks on a medium,

and each of said liquid ejecting section groups being driven based on a single reference ejection signal for causing said liquid droplets to be ejected from said liquid ejecting sections;

5 a reference liquid ejecting section group, among said liquid ejecting section groups, that is driven according to the reference ejection signal therefor at a predetermined reference timing and that is a liquid ejecting section group other than the liquid ejecting section group, among said liquid ejecting section groups, that is the most susceptible to vibration caused by moving said
10 moving member; and

15 at least one other liquid ejecting section group, among said liquid ejecting section groups, that is driven according to the reference ejection signal therefor at a timing adjusted based on said predetermined reference timing of said reference liquid ejecting section group.

16. A liquid ejecting apparatus according to claim 15, wherein
20 said reference liquid ejecting section group is positioned on a side, in a direction intersecting with said predetermined direction, that is close to a section, in said moving member, to which said external force is applied.

17. A liquid ejecting apparatus according to claim 16, wherein
25 said reference liquid ejecting section group is positioned on a side that is close to a center of said section to which said external force is applied.

18. A liquid ejecting apparatus according to claim 15, wherein
30 said liquid ejecting section groups are liquid ejecting section rows, each of said liquid ejecting section rows including

said liquid ejecting sections aligned in a row in a carrying direction in which said medium is carried.

19. A liquid ejecting apparatus according to claim 15, wherein
5 said liquid ejecting section groups are liquid ejecting units, each of said liquid ejecting units including at least two liquid ejecting section rows aligned in said predetermined direction, and each of said liquid ejecting section rows including said liquid ejecting sections aligned in a row in a carrying
10 direction in which said medium is carried.

20. A liquid ejecting apparatus according to claim 15, wherein
 said timing for driving said other liquid ejecting section group is adjusted to make
15 a reference liquid droplet mark row that is taken as a reference and that is formed in a carrying direction, in which said medium is carried, by said reference liquid ejecting section group ejecting liquid at said predetermined reference timing while
20 moving and
 a liquid droplet mark row that is formed by said other liquid ejecting section group ejecting liquid while moving
 be continuous with each other.

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21. A liquid ejecting apparatus according to claim 20, wherein
 said liquid ejecting apparatus carries said medium between
 an action of forming said reference liquid droplet mark row and
30 an action of forming said liquid droplet mark

row with said other liquid ejecting section group.

22. A liquid ejecting apparatus according to claim 15, wherein
said liquid is ink.

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23. A liquid ejecting apparatus according to claim 15, wherein:
each of said liquid ejecting section groups has an
achromatic color liquid ejecting section row for ejecting
achromatic color ink as said liquid and a chromatic color liquid
10 ejecting section row for ejecting chromatic color ink; and
said timing for driving said other liquid ejecting section
group is adjusted differently for

when said liquid droplet marks are to be formed
on said medium by ejecting ink from said achromatic
15 color liquid ejecting section row, and

when said liquid droplet marks are to be formed
on said medium using said chromatic color liquid
ejecting section row.

20 24. A liquid ejecting apparatus according to claim 23, wherein
when said positions of said liquid droplet marks are to be
adjusted for performing printing on said medium by ejecting ink
from said achromatic color liquid ejecting section row, said
timing for driving said other liquid ejecting section group is
25 adjusted according to liquid droplet marks that are formed by the
ink ejected from said achromatic color liquid ejecting section
row.

25. A liquid ejecting apparatus according to claim 23, wherein:
30 each of said liquid ejecting section groups has at least

two chromatic color liquid ejecting section rows, each for ejecting a different one of at least two chromatic color inks as said liquid; and

when said positions of said liquid droplet marks are to be 5 adjusted for performing printing on said medium by ejecting ink from said chromatic color liquid ejecting section rows, said timing for driving said other liquid ejecting section group is adjusted according to liquid droplet mark rows that are formed by the inks ejected from said chromatic color liquid ejecting 10 section rows.

26. A liquid ejecting apparatus according to claim 25, wherein: the liquid ejecting section rows in the same one of said liquid ejecting section groups are driven based on said single 15 reference ejection signal; and

said timing for driving said other liquid ejecting section group is adjusted to make

20 a distance, in said predetermined direction, between the liquid droplet mark rows, among said liquid droplet mark rows formed by ejecting the inks from said chromatic color liquid ejecting section rows, that are formed using ink of one predetermined color and

25 a distance, in said predetermined direction, between the liquid droplet mark rows, among said liquid droplet mark rows formed by ejecting the inks from said chromatic color liquid ejecting section rows, that are formed using ink of another predetermined color

30 be approximately equal.

27. A liquid ejecting apparatus according to claim 26, wherein the inks of the predetermined colors are magenta-type ink and cyan-type ink.

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28. A liquid ejecting apparatus according to claim 23, wherein the liquid ejecting sections for ejecting said chromatic color ink to adjust said positions of said liquid droplet marks are a portion of said liquid ejecting sections of said chromatic color liquid ejecting section row.

10 29. A liquid ejecting apparatus comprising:
a moving member that has at least two ink ejecting units and that is capable of moving in a predetermined direction due 15 to an external force, each of said ink ejecting units including at least two ink ejecting section rows aligned in said predetermined direction, each of said ink ejecting section rows including at least two ink ejecting sections that are for ejecting ink droplets to form ink droplet marks on a medium and that are 20 aligned in a row in a carrying direction in which said medium is carried, and each of said ink ejecting units being driven based on a single reference ejection signal for causing said ink droplets to be ejected from said ink ejecting sections;

25 a reference ink ejecting unit, among said ink ejecting units, that is driven according to the reference ejection signal therefor at a predetermined reference timing and that is an ink ejecting unit other than the ink ejecting unit, among said ink ejecting units, that is the most susceptible to vibration caused by moving said moving member; and

30 at least one other ink ejecting unit, among said ink ejecting

units, that is driven according to the reference ejection signal therefor at a timing adjusted based on said predetermined reference timing of said reference ink ejecting unit, wherein:

5 said reference ink ejecting unit is positioned on a side, in a direction intersecting with said predetermined direction, that is close to a center of a section, in said moving member, to which said external force is applied;

10 each of said ink ejecting units has an achromatic color ink ejecting section row for ejecting achromatic color ink and at least two chromatic color ink ejecting section rows each for ejecting a different one of at least two chromatic color inks;

15 a reference ink droplet mark row that is taken as a reference and that is formed in said carrying direction by said reference ink ejecting unit ejecting ink at said predetermined reference timing while moving and

20 an ink droplet mark row that is formed by said other ink ejecting unit ejecting ink while moving are formed, one of either said reference ink droplet mark row or said ink droplet mark row being formed before a carrying action of said medium, and the other being formed after said carrying action;

25 when said positions of said ink droplet marks are to be adjusted for performing printing on said medium by ejecting ink from said achromatic color ink ejecting section row, said timing for driving said other ink ejecting unit is adjusted according to ink droplet marks that are formed by the ink ejected from said achromatic color ink ejecting section row to make

30 said reference ink droplet mark row and said ink droplet mark row that is formed by said

other ink ejecting unit

be continuous with each other; and

when said positions of said ink droplet marks are to be adjusted for performing printing on said medium by ejecting inks 5 from said chromatic color ink ejecting section rows, said timing for driving said other ink ejecting unit is adjusted to make

a distance, in said predetermined direction,

10 between the ink droplet mark rows, among said ink droplet mark rows formed by ejecting the inks from said chromatic color ink ejecting section rows, that are formed using magenta-type ink by a portion of said ink ejecting sections of said ink ejecting section row and

a distance, in said predetermined direction,

15 between the ink droplet mark rows, among said ink droplet mark rows formed by ejecting the inks from said chromatic color ink ejecting section rows, that are formed using cyan-type ink by a portion of said ink ejecting sections of said ink ejecting section

20 row

be approximately equal.

30. A method of adjusting positions of liquid droplet marks, comprising the steps of:

25 preparing a liquid ejecting apparatus including a moving member that has at least two liquid ejecting section groups and that is capable of moving in a predetermined direction due to an external force, each of said liquid ejecting section groups including at least two liquid ejecting sections for ejecting 30 liquid droplets to form liquid droplet marks on a medium, each

of said liquid ejecting section groups being driven based on a single reference ejection signal for causing said liquid droplets to be ejected from said liquid ejecting sections;

5 ejecting liquid to form a liquid droplet mark pattern including

10 liquid droplet marks formed by ejecting liquid from the liquid ejecting sections of a reference liquid ejecting section group, among said liquid ejecting section groups, that is driven according to the reference ejection signal therefor at a predetermined reference timing and that is a liquid ejecting section group other than the liquid ejecting section group, among said liquid ejecting section groups, that is the most susceptible to vibration caused by moving said moving member and

15 liquid droplet marks formed by ejecting liquid from the liquid ejecting sections of one other liquid ejecting section group, among said liquid ejecting section groups other than said reference liquid ejecting section group, that is driven according to the reference ejection signal therefor at a timing different from said predetermined reference timing; and

20 adjusting the timing of the reference ejection signal for said one other liquid ejecting section group based on said liquid droplet mark pattern.

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31. A liquid ejecting system comprising:

 a computer; and

 a liquid ejecting apparatus that is connected to said computer and that includes:

30 a moving member that has at least two liquid

ejecting section groups and that is capable of moving in a predetermined direction due to an external force, each of said liquid ejecting section groups including at least two liquid ejecting sections for ejecting liquid droplets to form liquid droplet marks on a medium, and each of said liquid ejecting section groups being driven based on a single reference ejection signal for causing said liquid droplets to be ejected from said liquid ejecting sections;

10 a reference liquid ejecting section group, among said liquid ejecting section groups, that is driven according to the reference ejection signal therefor at a predetermined reference timing and that is a liquid ejecting section group other than the liquid ejecting section group, among said liquid ejecting section groups, that is the most susceptible to vibration caused by moving said moving member; and

20 at least one other liquid ejecting section group, among said liquid ejecting section groups, that is driven according to the reference ejection signal therefor at a timing adjusted based on said predetermined reference timing of said reference liquid ejecting section group.